

[illegible]

[illegible]

| | | | | | | | | | | | | | | | | |
|---|-------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <400> | 2 | | | | | | | | | | | | | | | |
| Met Met Leu Leu Leu Ala Arg Ser Leu Arg Ser Arg Val Arg Ser Pro | | | | | | | | | | | | | | | | |
| 1 | 5 10 15 | | | | | | | | | | | | | | | |
| Phe Ala Ser Ala Val Ser Ala Ala Pro Phe Ser Ser Val Ser Ala Ala | | | | | | | | | | | | | | | | |
| | 20 25 30 | | | | | | | | | | | | | | | |
| Ala Ala Glu Ala Glu Arg Ala Val Arg Asp Gly Pro Arg Asn Asp Trp | | | | | | | | | | | | | | | | |
| | 35 40 45 | | | | | | | | | | | | | | | |
| Thr Arg Pro Glu Ile Gln Ala Ile Tyr Asp Ser Pro Leu Leu Asp Leu | | | | | | | | | | | | | | | | |
| | 50 55 60 | | | | | | | | | | | | | | | |
| Leu Phe His Gly Ala Gln Val His Arg Asn Val His Lys Phe Arg Glu | | | | | | | | | | | | | | | | |
| 65 | 70 75 80 | | | | | | | | | | | | | | | |
| Val Gln Gln Cys Thr Leu Leu Ser Ile Lys Thr Gly Gly Cys Ser Glu | | | | | | | | | | | | | | | | |
| | 85 90 95 | | | | | | | | | | | | | | | |
| Asp Cys Ser Tyr Cys Pro Gln Ser Ser Arg Tyr Ser Thr Gly Leu Lys | | | | | | | | | | | | | | | | |
| | 100 105 110 | | | | | | | | | | | | | | | |
| Ala Glu Lys Leu Met Lys Lys Asp Ala Val Leu Glu Ala Ala Lys Lys | | | | | | | | | | | | | | | | |
| | 115 120 125 | | | | | | | | | | | | | | | |
| Ala Lys Xaa Ala Gly Ser Thr Arg Phe | | | | | | | | | | | | | | | | |
| | 130 135 | | | | | | | | | | | | | | | |

```

<220>
<221>  Unsure
<222>  (33)..(33)
<223>  n = A, C, G, or T

```

```
<220>
<221>  Unsure
<222>  (321)..(321)
<223>  n = A, C, G, or T
```

<220>
 <221> Unsure
 <222> (365)..(365)
 <223> n = A, C, G, or T

<220>
 <221> Unsure
 <222> (446)..(446)
 <223> n = A, C, G, or T

<400> 3
 tccaatcggg tgggcagttt ttaaggaaac canggaccgc aagcaagcaa gccgccccag 60
 ccgacgaggc gaggagcgtg caattccgta gctgcaacga actccctcga ccgtatcgcc 120
 cgctgctcct ctatcccttt cctgctgctg ctactacctt aagctatcac tatcatggcc 180
 ttgatgctgc tagcgcgcaa cctgcgctcc cgccctccgc caccgctcgc cgccgcccgc 240
 ggggttctcgt cggccgcggc ggaggcggag agggcgatac gggacgggccc gcggaacgac 300
 tggagccggc ccgagatnca ngccgtctac gactcaccgc tcctcgacct cctctttcac 360
 ggggntcagt catcaagata caacactgga ttgaagggcc aaaaattgat gaacaaatat 420
 gctgtcttgg gagcagcaaa aaaggnaaaa gagtctggga agcaaccgtt tttgcatggg 480
 aactgcattg gagaaa 496

<210> 4
 <211> 102
 <212> PRT
 <213> Zea mays

<220>
 <221> UNSURE
 <222> (48)..(49)
 <223> Xaa = any amino acid

<220>
 <221> UNSURE
 <222> (64)..(64)
 <223> Xaa = any amino acid

<220>
 <221> UNSURE
 <222> (91)..(91)
 <223> Xaa = any amino acid

<400> 4
 Met Ala Leu Met Leu Leu Ala Arg Asn Leu Arg Ser Arg Leu Arg Pro
 1 5 10 15
 Pro Leu Ala Ala Ala Gly Phe Ser Ser Ala Ala Ala Glu Ala Glu
 20 25 30
 Arg Ala Ile Arg Asp Gly Pro Arg Asn Asp Trp Ser Arg Pro Glu Xaa
 35 40 45
 Xaa Ala Val Tyr Asp Ser Pro Leu Leu Asp Leu Leu Phe His Gly Xaa
 50 55 60

Gln Ser Ser Arg Tyr Asn Thr Gly Leu Lys Gly Gln Lys Leu Met Asn
65 70 75 80
Lys Tyr Ala Val Leu Gly Ala Ala Lys Lys Xaa Lys Glu Ser Gly Lys
85 90 95
Gln Pro Phe Leu His Gly
100

<210> 5
<211> 497
<212> DNA
<213> Zea mays

<220>
<221> Unsure
<222> (192)..(192)
<223> n = A, C, G, or T

<220>
<221> Unsure
<222> (460)..(460)
<223> n = A, C, G, or T

<220>
<221> Unsure
<222> (463)..(463)
<223> n = A, C, G, or T

<220>
<221> Unsure
<222> (469)..(469)
<223> n = A, C, G, or T

<220>
<221> Unsure
<222> (490)..(490)
<223> n = A, C, G, or T

<400> 5
agccgacgag gcgaggagcg tgcaattccg tagctgcaac tgcaacgaac tccctccctc 60
cctcgaccgt atcgcccgt gtcctcttat ccctttcctg ctgctgctac taccttaagc 120
tatcatggcc ttgatgctgc tagcgcgcaa cctgcgctcc cgctccgcc caccgctcgc 180
cgccgcccgc gngttctcgt cggccgcggc ggaggcggag agggcgatac gggacgggcc 240
gcggaacgac tggagccggc ccgagattca agccgtctac gactcaccgc tctcgacct 300
cctctttcac ggggctcaag tccacagaaa tgtccataaa ttcaagagaa gtgcagcaat 360
gcacatttct ttcaatcaag actggtggga tgcagtgaag attgttctta ctgtcctcaa 420
gtcatcaaag aatacaacac tgggattgaa gggcccaaan aanttgatna acaaaagatg 480
ctgtcttggg aacaaca 497

<210> 6

<211> 98
 <212> PRT
 <213> Zea mays

<220>
 <221> UNSURE
 <222> (23)..(23)
 <223> Xaa = any amino acid

<220>
 <221> UNSURE
 <222> (72)..(72)
 <223> Xaa = any amino acid

<220>
 <221> UNSURE
 <222> (89)..(89)
 <223> Xaa = any amino acid

<400> 6
 Met Ala Leu Met Leu Leu Ala Arg Asn Leu Arg Ser Arg Leu Arg Pro
 1 5 10 15
 Pro Leu Ala Ala Ala Xaa Phe Ser Ser Ala Ala Ala Glu Ala Glu
 20 25 30
 Arg Ala Ile Arg Asp Gly Pro Arg Asn Asp Trp Ser Arg Pro Glu Ile
 35 40 45
 Gln Ala Val Tyr Asp Ser Pro Leu Leu Asp Leu Leu Phe His Gly Ala
 50 55 60
 Gln Val His Arg Asn Val His Xaa Ser Arg Glu Val Gln Gln Cys Thr
 65 70 75 80
 Leu Leu Ser Ile Lys Thr Gly Gly Xaa Ser Glu Asp Cys Ser Tyr Cys
 85 90 95
 Pro Gln

<210> 7
 <211> 1152
 <212> DNA
 <213> Zea mays

<400> 7
 gcagccgacg aggcgaggag cgtgcaattc cgtagctgca acgaactccc tcgaccgtat 60
 cgcccgtgc tcctctatcc ctttcctgct gctgctacta ccttaagcta tcactatcat 120
 ggccttgatg ctgctagcgc gcaacctgcg ctcccgctc cgcccaccgc tcgcccgcgc 180
 cgcggcgttc tcgtcgcccg cggcggaggc ggagagggcg atacgggacg ggccgcggaa 240
 cgactggagc cgcccgcaga tccaggccgt ctacgactca ccgctcctcg acctcctctt 300
 tcacggggct cagggtccaca gaaatgtcca taaattcaga gaagtgcagc aatgcacact 360
 tctttcaate aagactggtg gatgcagtga agattgtct tactgtcctc agtcatcaag 420
 atacaacact ggattgaagg cccaaaaatt gatgaacaaa tatgctgtct tggaagcagc 480
 aaaaaaggca aaagagtctg ggagcaccgc tttttgcatg ggagctgcat ggagagaaac 540
 cattggcagg aaatcaaact tcaaccagat tcttgaatat gtcaaggaaa taagggttat 600
 gggcatggag gtctgttgca cactaggcat gatagagaaa caacaagctg aagaactcaa 660

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|------|
| gaaggctgga | cttacagcat | ataatcataa | cctagatata | tcaagagagt | attatcccaa | 720 |
| cattattacc | acaagatcat | atgatgatag | actgcagact | cttgagcatg | tccgtgaagc | 780 |
| tggaataagc | atctgctcag | gtggaatcat | tggtcttggt | gaagcagagg | aggaccgggt | 840 |
| agggttggtg | cataccctag | ctaccttgcc | tacacacca | gagagcggtc | ctattaatgc | 900 |
| attggttgct | gtaaaaggca | cacctcttga | ggaccagaag | cctgtagaga | tctgggaaat | 960 |
| gatccgcatg | atcgccactg | ctcggatcac | gatgccaaag | gcaatggtga | ggctttcagc | 1020 |
| aggccgagta | cggttctcga | tgccagaaca | agcgctgtgc | ttcctcgctg | gggccaaactc | 1080 |
| catccttgcc | ggcgagaaaac | ttctcacaac | cgcaaacaac | gactttgatg | cggaccaagc | 1140 |
| gatgttcaag | at | | | | | 1152 |

<210> 8
 <211> 344
 <212> PRT
 <213> Zea mays

<400> 8

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Leu | Met | Leu | Leu | Ala | Arg | Asn | Leu | Arg | Ser | Arg | Leu | Arg | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Leu | Ala | Ala | Ala | Ala | Ala | Phe | Ser | Ser | Ala | Ala | Ala | Glu | Ala | Glu |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Arg | Ala | Ile | Arg | Asp | Gly | Pro | Arg | Asn | Asp | Trp | Ser | Arg | Pro | Glu | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Ala | Val | Tyr | Asp | Ser | Pro | Leu | Leu | Asp | Leu | Leu | Phe | His | Gly | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gln | Val | His | Arg | Asn | Val | His | Lys | Phe | Arg | Glu | Val | Gln | Gln | Cys | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Leu | Leu | Ser | Ile | Lys | Thr | Gly | Gly | Cys | Ser | Glu | Asp | Cys | Ser | Tyr | Cys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Pro | Gln | Ser | Ser | Arg | Tyr | Asn | Thr | Gly | Leu | Lys | Ala | Gln | Lys | Leu | Met |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Asn | Lys | Tyr | Ala | Val | Leu | Glu | Ala | Ala | Lys | Lys | Ala | Lys | Glu | Ser | Gly |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Ser | Thr | Arg | Phe | Cys | Met | Gly | Ala | Ala | Trp | Arg | Glu | Thr | Ile | Gly | Arg |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Lys | Ser | Asn | Phe | Asn | Gln | Ile | Leu | Glu | Tyr | Val | Lys | Glu | Ile | Arg | Gly |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Met | Gly | Met | Glu | Val | Cys | Cys | Thr | Leu | Gly | Met | Ile | Glu | Lys | Gln | Gln |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ala | Glu | Glu | Leu | Lys | Lys | Ala | Gly | Leu | Thr | Ala | Tyr | Asn | His | Asn | Leu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Asp | Thr | Ser | Arg | Glu | Tyr | Tyr | Pro | Asn | Ile | Ile | Thr | Thr | Arg | Ser | Tyr |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Asp | Asp | Arg | Leu | Gln | Thr | Leu | Glu | His | Val | Arg | Glu | Ala | Gly | Ile | Ser |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ile | Cys | Ser | Gly | Gly | Ile | Ile | Gly | Leu | Gly | Glu | Ala | Glu | Glu | Asp | Arg |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Val | Gly | Leu | Leu | His | Thr | Leu | Ala | Thr | Leu | Pro | Thr | His | Pro | Glu | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Val | Pro | Ile | Asn | Ala | Leu | Val | Ala | Val | Lys | Gly | Thr | Pro | Leu | Glu | Asp |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Gln | Lys | Pro | Val | Glu | Ile | Trp | Glu | Met | Ile | Arg | Met | Ile | Ala | Thr | Ala |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Arg | Ile | Thr | Met | Pro | Lys | Ala | Met | Val | Arg | Leu | Ser | Ala | Gly | Arg | Val |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Arg | Phe | Ser | Met | Pro | Glu | Gln | Ala | Leu | Cys | Phe | Leu | Ala | Gly | Ala | Asn |

```
<210> 9
<211> 562
<212> DNA
<213> Argemone mexicana

<220>
<221> Unsure
<222> (553)..(553)
<223> n = A, C, G, or T
```

```
<210> 10
<211> 119
<212> PRT
<213> Argemone mexicana
```

<210> 11

<211> 1340
 <212> DNA
 <213> Glycine max

<400> 11
 ctagtactgc tccctctgcg acttcgtttc gtagagggat tttggccgcc aaataaacag 60
 tctcaccata aactccaaag tcccaacgct aaacgaaacc aaaccccaaa cacaaatacc 120
 gttgttgtct gttgtctctg tctgtctctat attcgcagat ctctcactca ttctctgttg 180
 tttctctgcc caacttcgaa ttcgaaagca aaaacatggt tttggcgaga cccattttcc 240
 gagcaccctc cctttgggcg ttgcaactct cctacgcgta ttcctctgcc tcagcagctg 300
 caattcaagc tgagagagcc atcaaagaag gaccagaaa cgattggagc cgagaccaag 360
 tcaaattccat ctacgactct cccatttctcg atcttctctt ccatggggct caagtccaca 420
 gacatgctca taacttcagg gaagttcaac agtgtactct tctgtctatc aaaacaggag 480
 ggtgcagtga agattgttcc tattgtcctc aatcctctaa gtatgataca ggagtcaaaa 540
 ggccaagcct tatgaacaag gaagctgttc tccaggctgc aaagaaggca aaagaggctg 600
 ggagcactcg cttttgtatg ggtgctgctg ggagggatac actaggaaga aagaccaact 660
 tcaaccagat ccttgaatat gtgaaagaca taagggacat gggaatggag gtttgttgca 720
 cccttggcat gctggagaaa cagcaggctg ttgaactcaa gaaggcaggt ctactgctt 780
 ataatcacia tcttgacact tcaagggagt attatccaaa cataatcaca acaaggactt 840
 atgatgagcg tcttcaaacc cttgagtttg ttcgggatgc agggatcaat gtttgttctg 900
 gaggaattat agggcttgga gaagcagagg aggatcgtgt aggtttgtta catacattgt 960
 caacacttcc caccatcca gagagtgttc ctattaatgc acttgttgct gtaaagggaa 1020
 cccctcttga ggatcagaag cctgttgaaa tatgggagat gattcgcagc atagcaactg 1080
 cacgtatcgt aatgccaaaa gcaatggtca gggtatcagc tggcagagtt cgattctcca 1140
 tgcttgagca ggcattgtgc tttcttgctg gtgcaaattc tatattcact ggtgaaaagc 1200
 ttctcactac tcttaacaat gattttgatg ctgatcaact catgtttaaa gttcttggac 1260
 ttctcccaaa agctccaagc ttacatgaag gtgaaactag tgtgacagaa gattataagg 1320
 aagcagcttc ttctagtga 1340

<210> 12
 <211> 374
 <212> PRT
 <213> Glycine max

<400> 12
 Met Phe Leu Ala Arg Pro Ile Phe Arg Ala Pro Ser Leu Trp Ala Leu
 1 5 10 15
 His Ser Ser Tyr Ala Tyr Ser Ser Ala Ser Ala Ala Ala Ile Gln Ala
 20 25 30
 Glu Arg Ala Ile Lys Glu Gly Pro Arg Asn Asp Trp Ser Arg Asp Gln
 35 40 45
 Val Lys Ser Ile Tyr Asp Ser Pro Ile Leu Asp Leu Leu Phe His Gly
 50 55 60
 Ala Gln Val His Arg His Ala His Asn Phe Arg Glu Val Gln Gln Cys
 65 70 75 80
 Thr Leu Leu Ser Ile Lys Thr Gly Gly Cys Ser Glu Asp Cys Ser Tyr
 85 90 95
 Cys Pro Gln Ser Ser Lys Tyr Asp Thr Gly Val Lys Arg Pro Ser Leu
 100 105 110
 Met Asn Lys Glu Ala Val Leu Gln Ala Ala Lys Lys Ala Lys Glu Ala
 115 120 125
 Gly Ser Thr Arg Phe Cys Met Gly Ala Ala Trp Arg Asp Thr Leu Gly
 130 135 140
 Arg Lys Thr Asn Phe Asn Gln Ile Leu Glu Tyr Val Lys Asp Ile Arg
 145 150 155 160

Asp Met Gly Met Glu Val Cys Cys Thr Leu Gly Met Leu Glu Lys Gln
 165 170 175
 Gln Ala Val Glu Leu Lys Lys Ala Gly Leu Thr Ala Tyr Asn His Asn
 180 185 190
 Leu Asp Thr Ser Arg Glu Tyr Tyr Pro Asn Ile Ile Thr Thr Arg Thr
 195 200 205
 Tyr Asp Glu Arg Leu Gln Thr Leu Glu Phe Val Arg Asp Ala Gly Ile
 210 215 220
 Asn Val Cys Ser Gly Gly Ile Ile Gly Leu Gly Glu Ala Glu Glu Asp
 225 230 235 240
 Arg Val Gly Leu Leu His Thr Leu Ser Thr Leu Pro Thr His Pro Glu
 245 250 255
 Ser Val Pro Ile Asn Ala Leu Val Ala Val Lys Gly Thr Pro Leu Glu
 260 265 270
 Asp Gln Lys Pro Val Glu Ile Trp Glu Met Ile Arg Met Ile Ala Thr
 275 280 285
 Ala Arg Ile Val Met Pro Lys Ala Met Val Arg Leu Ser Ala Gly Arg
 290 295 300
 Val Arg Phe Ser Met Pro Glu Gln Ala Leu Cys Phe Leu Ala Gly Ala
 305 310 315 320
 Asn Ser Ile Phe Thr Gly Glu Lys Leu Leu Thr Thr Pro Asn Asn Asp
 325 330 335
 Phe Asp Ala Asp Gln Leu Met Phe Lys Val Leu Gly Leu Leu Pro Lys
 340 345 350
 Ala Pro Ser Leu His Glu Gly Glu Thr Ser Val Thr Glu Asp Tyr Lys
 355 360 365
 Glu Ala Ala Ser Ser Ser
 370

<210> 13
 <211> 479
 <212> DNA
 <213> Glycine max

<400> 13
 ggcgactctc agaacttccc tatcacgata cctcatcctc cttcgctcca ataccocctaa 60
 actcgacact atctcttctt ctgttcgtct tcaagttcaa aagtcgagaa actatgggtac 120
 cgtatcatct gttcctcctc aagctacaga aacatcaagc acatcaccta gtaaggatgt 180
 ctaccaagaa gcactcaacg caactgaacc ccgcagcaat tggacaagag aagaaatcaa 240
 ggcgatctat gataagccat tgatggagtt atgttggggg gctggtagtt tgcacaggaa 300
 attccatata cctggggcta ttcagatgtg tacattgttg aacatcaaga cgggtggttg 360
 ctcgaggagg ttgttcttac tggcgcccaa tcatcccgct accaaaccgg tctcaaagcc 420
 ctcaaaaaat ggtcctccgt cgaatctgtc ctgcgaagcc gccccgcata gccaaaaga 479

<210> 14
 <211> 52
 <212> PRT
 <213> Glycine max

<400> 14
 Arg Ser Asn Trp Thr Arg Glu Glu Ile Lys Ala Ile Tyr Asp Lys Pro
 1 5 10 15
 Leu Met Glu Leu Cys Trp Gly Ala Gly Ser Leu His Arg Lys Phe His
 20 25 30

Ile Pro Gly Ala Ile Gln Met Cys Thr Leu Leu Asn Ile Lys Thr Gly
 35 40 45
 Gly Cys Ser Glu
 50

<210> 15
 <211> 589
 <212> DNA
 <213> Triticum aestivum

<220>
 <221> Unsure
 <222> (321)..(321)
 <223> n = A, C, G, or T

<220>
 <221> Unsure
 <222> (332)..(332)
 <223> n = A, C, G, or T

<220>
 <221> Unsure
 <222> (335)..(336)
 <223> n = A, C, G, or T

<220>
 <221> Unsure
 <222> (403)..(403)
 <223> n = A, C, G, or T

<220>
 <221> Unsure
 <222> (407)..(407)
 <223> n = A, C, G, or T

<220>
 <221> Unsure
 <222> (516)..(516)
 <223> n = A, C, G, or T

<220>
 <221> Unsure
 <222> (539)..(539)
 <223> n = A, C, G, or T

<220>
 <221> Unsure
 <222> (547)..(547)

"GCTT" 00000000

<223> n = A, C, G, or T

<220>

<221> Unsure

<222> (550)..(550)

<223> n = A, C, G, or T

<220>

<221> Unsure

<222> (555)..(555)

<223> n = A, C, G, or T

<220>

<221> Unsure

<222> (577)..(578)

<223> n = A, C, G, or T

<400> 15

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| agatgccgtc | ctagaagcag | caaaaaaggc | aaaggaggct | gggagcacc | gattttgcat | 60 |
| gggagccgca | tggagagaga | caattggcag | gaaaacaaat | ttcaaccaga | ttcttgaata | 120 |
| tgtcaaggac | ataagaggta | tgggcatgga | ggtctgttgc | accctgggca | tgctagagaa | 180 |
| acaacaagct | gaagaactcc | aagaaggctg | gactttacag | cttataatca | taacctaaga | 240 |
| tacatccaag | agaatattac | ccccaacatt | tattcctaca | agattccgtt | accgatggat | 300 |
| tagatttacc | agctcctttc | nagcatgtcc | cnttnnaagc | tgggaattaa | gccgtcctgg | 360 |
| tccaaggtg | ggaattttatt | gggccctttg | ggagaaggcc | ggnaggnaaa | cccgtttttt | 420 |
| aggctggttt | gccatacact | gggccacttt | tttgcccaac | acacccaag | agagcgttcc | 480 |
| cctatccaat | gcatttgatt | gccctgtcca | agggancctc | ccttccaagg | ttttaaaanc | 540 |
| cctgttnaan | atatnggaaa | ttattnccgc | atgattnncc | aaccacgg | | 589 |

<210> 16

<211> 78

<212> PRT

<213> Triticum aestivum

<220>

<221> UNSURE

<222> (69)..(69)

<223> Xaa = any amino acid

<400> 16

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ala | Val | Leu | Glu | Ala | Ala | Lys | Lys | Ala | Lys | Glu | Ala | Gly | Ser | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Phe | Cys | Met | Gly | Ala | Ala | Trp | Arg | Glu | Thr | Ile | Gly | Arg | Lys | Thr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asn | Phe | Asn | Gln | Ile | Leu | Glu | Tyr | Val | Lys | Asp | Ile | Arg | Gly | Met | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Met | Glu | Val | Cys | Cys | Thr | Leu | Gly | Met | Leu | Glu | Lys | Gln | Gln | Ala | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Leu | Gln | Glu | Xaa | Asp | Phe | Thr | Ala | Tyr | Asn | His | Asn | Leu | | |
| 65 | | | | | 70 | | | | | 75 | | | | | |

<210> 17
 <211> 1396
 <212> DNA
 <213> Hordeum vulgare

<400> 17
 gcaccacaac tccctcggca gtatcgcta gtgcagcagc ggctccgttc cggccagctt 60
 tgctcgccga gccggccatg atgctgctgc tcgcgcgcag ccttcgctcc cgcgtccggt 120
 ccccttcgc ctccgccgtt agcgccgcgc ccttctcatc ggtatcggcg gccgcggcgg 180
 aggcggagcg ggcgggtgcg gacgggcca ggaacgactg gaccgcccc gagatccagg 240
 ccatctacga ctccccgctc ctcgacctcc tcttcacggt ggctcaagtc cataggaatg 300
 tccataaatt tagagaagtg caacaatgca cacttctttc aataaagact ggtgggtgca 360
 gcgaagattg ttcatactgc ccacagtctt caagatacag taccggattg aaggctgaaa 420
 aattaatgaa gaaagatgcc gtcctagaag cagctaaaaa ggcaaaggag gctgggagca 480
 cccgattttg catgggagcc gcatggagag agacaatttg caggaaaaca aacttcaacc 540
 agattcttga atatgtcaag gacataagag gtatgggcat ggaggtctgt tgcaccctgg 600
 gcatgctaga gaaacagcaa gctgaagaac tcaagaaggc tggacttaca gcttataatc 660
 ataacctaga tacatcaaga gaataattacc cgaacattat ttctacaaga tcgtatgatg 720
 atagattaca gactcttcag catgtccgtg aagctggaat aagcgtctgc tcaggtggaa 780
 ttattgggtct tggagaggcg gaggaagacc gtgtagggtt gttgcataca ctggccactt 840
 tgccaacaca cccagagagt gttcctatca atgcattgat tgctgtcaaa ggcacgcctc 900
 ttcaggatca gaagcctgta gagatatggg aaatgatccg catgattgcc agcgtcggga 960
 ttgtgatgcc aaaggcaatg gtgagacttt cggcagggcg agtacggttc tccatgccag 1020
 agcaagctct ctgctttctt gctggggcca actcgatctt cgccggtgaa aagctcctga 1080
 caactgcaaa caacgacttt gatgcggacc aggcaatggt caagatcctt ggcctgattc 1140
 ccaaggcacc gaactttggc gatgaggagg ccaccgtggc atcatccacg gagagatgtg 1200
 agcaagccgc ttcgatgtaa aatgttggtg tagattctcg agaccacatc cggtgcaaaa 1260
 ctggcaccat tatctccagc tagagctttg tactgtaggg atcatgatat tttgtactcc 1320
 ctccgttctt aaatataagt cttttaagcg atttcaaaaa aaaaaaaaaa aaaaaaaaaa 1380
 aaaaaaaaaa aaaaaa 1396

<210> 18
 <211> 405
 <212> PRT
 <213> Hordeum vulgare

<400> 18
 Thr Thr Thr Pro Ser Ala Val Ser Pro Ser Ala Ala Ala Ala Pro Phe
 1 5 10 15
 Arg Pro Ala Leu Leu Ala Glu Pro Ala Met Met Leu Leu Leu Ala Arg
 20 25 30
 Ser Leu Arg Ser Arg Val Arg Ser Pro Phe Ala Ser Ala Val Ser Ala
 35 40 45
 Ala Pro Phe Ser Ser Val Ser Ala Ala Ala Ala Glu Ala Glu Arg Ala
 50 55 60
 Val Arg Asp Gly Pro Arg Asn Asp Trp Thr Arg Pro Glu Ile Gln Ala
 65 70 75 80
 Ile Tyr Asp Ser Pro Leu Leu Asp Leu Leu Phe His Gly Ala Gln Val
 85 90 95
 His Arg Asn Val His Lys Phe Arg Glu Val Gln Gln Cys Thr Leu Leu
 100 105 110
 Ser Ile Lys Thr Gly Gly Cys Ser Glu Asp Cys Ser Tyr Cys Pro Gln
 115 120 125

Ser Ser Arg Tyr Ser Thr Gly Leu Lys Ala Glu Lys Leu Met Lys Lys
 130 135 140
 Asp Ala Val Leu Glu Ala Ala Lys Lys Ala Lys Glu Ala Gly Ser Thr
 145 150 155 160
 Arg Phe Cys Met Gly Ala Ala Trp Arg Glu Thr Ile Gly Arg Lys Thr
 165 170 175
 Asn Phe Asn Gln Ile Leu Glu Tyr Val Lys Asp Ile Arg Gly Met Gly
 180 185 190
 Met Glu Val Cys Cys Thr Leu Gly Met Leu Glu Lys Gln Ala Glu
 195 200 205
 Glu Leu Lys Lys Ala Gly Leu Thr Ala Tyr Asn His Asn Leu Asp Thr
 210 215 220
 Ser Arg Glu Tyr Tyr Pro Asn Ile Ile Ser Thr Arg Ser Tyr Asp Asp
 225 230 235 240
 Arg Leu Gln Thr Leu Gln His Val Arg Glu Ala Gly Ile Ser Val Cys
 245 250 255
 Ser Gly Gly Ile Ile Gly Leu Gly Glu Ala Glu Glu Asp Arg Val Gly
 260 265 270
 Leu Leu His Thr Leu Ala Thr Leu Pro Thr His Pro Glu Ser Val Pro
 275 280 285
 Ile Asn Ala Leu Ile Ala Val Lys Gly Thr Pro Leu Gln Asp Gln Lys
 290 295 300
 Pro Val Glu Ile Trp Glu Met Ile Arg Met Ile Ala Ser Ala Arg Ile
 305 310 315 320
 Val Met Pro Lys Ala Met Val Arg Leu Ser Ala Gly Arg Val Arg Phe
 325 330 335
 Ser Met Pro Glu Gln Ala Leu Cys Phe Leu Ala Gly Ala Asn Ser Ile
 340 345 350
 Phe Ala Gly Glu Lys Leu Leu Thr Thr Ala Asn Asn Asp Phe Asp Ala
 355 360 365
 Asp Gln Ala Met Phe Lys Ile Leu Gly Leu Ile Pro Lys Ala Pro Asn
 370 375 380
 Phe Gly Asp Glu Glu Ala Thr Val Ala Ser Ser Thr Glu Arg Cys Glu
 385 390 395 400
 Gln Ala Ala Ser Met
 405

<210> 19
 <211> 1467
 <212> DNA
 <213> Zea mays

<400> 19
 gcacgagtcc aatcggggtgg cagttttttaa ggaaaccagg gaccgcagca gcaagccgcc 60
 ccagccgacg aggcgaggag cgtgcaattc cgtagctgca acgaactccc tcgaccgtat 120
 cgcccgtgc tcctctatcc ctttcctgct gctgctacta ccttaagcta tcaactatcat 180
 ggctttgatg ctgctagcgc gcaacctgcg ctcccgcctc cgcccaccgc tcgccgccgc 240
 cgcggcgttc tcgtcgcccg cggcggaggc ggagagggcg atacgggacg ggccgcggaa 300
 cgactggagc cgccccgaga tccaggccgt ctacgactca ccgtctctcg acctcctctt 360
 tcacggggct cagtcatcaa gatacaaacac tggattgaag gcccaaaaat tgatgaacaa 420
 atatgctgtc ttggaagcag caaaaaaggc aaaagagtct gggagcaccg gtttttgcac 480
 gggagctgca tggagagaaa ccattggcag gaaatcaaac ttcaaccaga ttcttgaata 540
 tgtcaaggaa ataaggggta tgggcatgga ggtctgttgc aactaggcga tgatagagaa 600
 acaacaagct gaagaactca agaaggctgg acttacagca tataatcata acctagatac 660
 atcaagagag tattatccca acattattac cacaagatca tatgatgata gactgcagac 720

```

tcttgagcat gtccgtgaag ctggaataag catctgctca ggtggaatca ttggtcttgg 780
tgaagcagag gaggaccggg taggggtgtt gcatacccta gctacccttg ctacacaccc 840
agagagcggt cctattaatg cattgggtgc tgtaaaaggc acacctcttg aggaccagaa 900
gcctgtagag atctgggaaa tgatccgcat gatcgccact gctcggatca cgatgccaaa 960
ggcaatggtg aggttttcag caggccgagt acggttctcg atgccagaac aagcgctgtg 1020
cttcctcgct ggggccaaact ccatctttgc cggcgagaaa cttctcacia ccgcaaacia 1080
cgactttgat gcggaccagg cgatgttcaa gatccttggc ctgatcccca aggctccaag 1140
ctttggcgag gaagaggcgt ctgcggcggc tcccacagaa tccgagaggt ctgagcaagc 1200
tgcttcgatg tagaatatat acatatcatt accgattatc cgtatcacgg ttggggcgaa 1260
actagaacta ccgtttagc tagagcattg gattgtagaa accacaacat ttcattatct 1320
tgtaattgct tgagactgaa tgggggatac ccatgtcggg ctagatcaat ggacaacttc 1380
cacacaacca aatccaaaca ttgaaactca tttttcatca cagttttaat aaacttctcc 1440
cacttatctt aaaaaaaaaa aaaaaaaa 1467

```

```

<210> 20
<211> 344
<212> PRT
<213> Zea mays

```

```

<400> 20
Met Ala Leu Met Leu Leu Ala Arg Asn Leu Arg Ser Arg Leu Arg Pro
1 5 10 15
Pro Leu Ala Ala Ala Ala Phe Ser Ser Ala Ala Ala Glu Ala Glu
20 25 30
Arg Ala Ile Arg Asp Gly Pro Arg Asn Asp Trp Ser Arg Pro Glu Ile
35 40 45
Gln Ala Val Tyr Asp Ser Pro Leu Leu Asp Leu Leu Phe His Gly Ala
50 55 60
Gln Ser Ser Arg Tyr Asn Thr Gly Leu Lys Ala Gln Lys Leu Met Asn
65 70 75 80
Lys Tyr Ala Val Leu Glu Ala Ala Lys Lys Ala Lys Glu Ser Gly Ser
85 90 95
Thr Arg Phe Cys Met Gly Ala Ala Trp Arg Glu Thr Ile Gly Arg Lys
100 105 110
Ser Asn Phe Asn Gln Ile Leu Glu Tyr Val Lys Glu Ile Arg Gly Met
115 120 125
Gly Met Glu Val Cys Cys Thr Leu Gly Met Ile Glu Lys Gln Gln Ala
130 135 140
Glu Glu Leu Lys Lys Ala Gly Leu Thr Ala Tyr Asn His Asn Leu Asp
145 150 155 160
Thr Ser Arg Glu Tyr Tyr Pro Asn Ile Ile Thr Thr Arg Ser Tyr Asp
165 170 175
Asp Arg Leu Gln Thr Leu Glu His Val Arg Glu Ala Gly Ile Ser Ile
180 185 190
Cys Ser Gly Gly Ile Ile Gly Leu Gly Glu Ala Glu Glu Asp Arg Val
195 200 205
Gly Leu Leu His Thr Leu Ala Thr Leu Pro Thr His Pro Glu Ser Val
210 215 220
Pro Ile Asn Ala Leu Val Ala Val Lys Gly Thr Pro Leu Glu Asp Gln
225 230 235 240
Lys Pro Val Glu Ile Trp Glu Met Ile Arg Met Ile Ala Thr Ala Arg
245 250 255
Ile Thr Met Pro Lys Ala Met Val Arg Leu Ser Ala Gly Arg Val Arg
260 265 270
Phe Ser Met Pro Glu Gln Ala Leu Cys Phe Leu Ala Gly Ala Asn Ser

```



```

ggggctcagg tccacagaaa tgtccataaa ttcagagaag tgcagcaatg cacacttctt 360
tcaatcaaga ctgggtggat cagtgaagat tgttcttact gtcctcagtc atcaagatac 420
aacactggat tgaaggccca aaaattgatg aacaaatatg ctgtcttgga agcagcaaaa 480
aaggcaaaaag agtctgggag caccctgttt tgcatgggag ctgcatggag agaaaccatt 540
ggcaggaaat caaacttcaa ccagattctt gaatatgtca aggaaataag gggatatgggc 600
atggaggtct gttgcacact aggcatgata gagaaacaac aagctgaaga actcaagaag 660
gctggactta cagcatataa tcataaccta gatacatcaa gagagtatta tcccaacatt 720
attaccacaa gatcatatga tgatagactg cagactcttg agcatgtccg tgaagctgga 780
ataagcatct gctcaggtgg aatcattggt ctgggtgaag cagaggagga ccgggtaggg 840
ttgttgcata ccctagctac cttgcctaca caccagaga gcgttcctat taatgcattg 900
gttgctgtaa aaggcacacc tcttgaggac cagaagcctg tagagatctg ggaaatgatc 960
cgcatgatcg ccactgctcg gatcacgatg ccaaaggcaa tgggtgaggct ttcagcaggc 1020
cgagtacggt tctcgatgcc agaacaagcg ctgtgcttcc tcgctggggc caactccatc 1080
tttgccggcg agaaacttct cacaaccgca aacaacgact ttgatgcgga ccaggcgatg 1140
ttcaagatcc ttggcctgat cccaagggt ccaagctttg gcgaggaaga ggcgtctgcg 1200
gcggctccca cagaatccga gaggtctgag caagctgctt cgatgtagaa tatatacata 1260
tcattaccga ttatccgtat cacggttggg gcgaaactag aactaccgtt gtagctagag 1320
cattggattg tagaaaccac aacatttcat tattttgtaa ttgcttgaga ctgaatgggg 1380
gataccatg tcgggctaga tcaatggaca acttccacac aaaaaaaaaa aaaaaaaaaa 1439

```

```

<210> 24
<211> 377
<212> PRT
<213> Zea mays

```

```

<400> 24
Met Ala Leu Met Leu Leu Ala Arg Asn Leu Arg Ser Arg Leu Arg Pro
1      5      10      15
Pro Leu Ala Ala Ala Ala Ala Phe Ser Ser Ala Ala Ala Glu Ala Glu
20     25     30
Arg Ala Ile Arg Asp Gly Pro Arg Asn Asp Trp Ser Arg Pro Glu Ile
35     40     45
Gln Ala Val Tyr Asp Ser Pro Leu Leu Asp Leu Leu Phe His Gly Ala
50     55     60
Gln Val His Arg Asn Val His Lys Phe Arg Glu Val Gln Gln Cys Thr
65     70     75     80
Leu Leu Ser Ile Lys Thr Gly Gly Cys Ser Glu Asp Cys Ser Tyr Cys
85     90     95
Pro Gln Ser Ser Arg Tyr Asn Thr Gly Leu Lys Ala Gln Lys Leu Met
100    105    110
Asn Lys Tyr Ala Val Leu Glu Ala Ala Lys Lys Ala Lys Glu Ser Gly
115    120    125
Ser Thr Arg Phe Cys Met Gly Ala Ala Trp Arg Glu Thr Ile Gly Arg
130    135    140
Lys Ser Asn Phe Asn Gln Ile Leu Glu Tyr Val Lys Glu Ile Arg Gly
145    150    155    160
Met Gly Met Glu Val Cys Cys Thr Leu Gly Met Ile Glu Lys Gln Gln
165    170    175
Ala Glu Glu Leu Lys Lys Ala Gly Leu Thr Ala Tyr Asn His Asn Leu
180    185    190
Asp Thr Ser Arg Glu Tyr Tyr Pro Asn Ile Ile Thr Thr Arg Ser Tyr
195    200    205
Asp Asp Arg Leu Gln Thr Leu Glu His Val Arg Glu Ala Gly Ile Ser
210    215    220
Ile Cys Ser Gly Gly Ile Ile Gly Leu Gly Glu Ala Glu Glu Asp Arg

```

225 230 235 240
Val Gly Leu Leu His Thr Leu Ala Thr Leu Pro Thr His Pro Glu Ser
245 250 255
Val Pro Ile Asn Ala Leu Val Ala Val Lys Gly Thr Pro Leu Glu Asp
260 265 270
Gln Lys Pro Val Glu Ile Trp Glu Met Ile Arg Met Ile Ala Thr Ala
275 280 285
Arg Ile Thr Met Pro Lys Ala Met Val Arg Leu Ser Ala Gly Arg Val
290 295 300
Arg Phe Ser Met Pro Glu Gln Ala Leu Cys Phe Leu Ala Gly Ala Asn
305 310 315 320
Ser Ile Phe Ala Gly Glu Lys Leu Leu Thr Thr Ala Asn Asn Asp Phe
325 330 335
Asp Ala Asp Gln Ala Met Phe Lys Ile Leu Gly Leu Ile Pro Lys Ala
340 345 350
Pro Ser Phe Gly Glu Glu Glu Ala Ser Ala Ala Ala Pro Thr Glu Ser
355 360 365
Glu Arg Ser Glu Gln Ala Ala Ser Met
370 375

<210> 25
<211> 1477
<212> DNA
<213> Argemone mexicana

<400> 25
gcacgagcat tgcagaaata aagagctgta aaatttttag ggtttttctg cataactcta 60
cactcgaagc ttcataaata gaaatatcat aaacagaaga attcaaaatg cttaaagttc 120
aatctttgag agctcgtctt cgacctttga ttttcatttc tacattttct tctctctcat 180
catcttcttc ttcttcagct gctgctgttc aagcagaaag aacgattaaa gaaggtccaa 240
gaaacgattg gagcagagat gaaattaaat cggtttatga ttctccagtt ctcatcttc 300
tcttccatgc agctcaagtc catagacatg ctcacaactt caggggaagt cagcaatgta 360
ctcttctctc tgttaagaca ggtgggtgca gtgaagattg ttcataattgt ccacaatctt 420
ccaggtatga cactggagtg aaagcccaaa agctgatgaa caaggacgca gttctgcagg 480
cagcagaaaa ggcaaaggag gcgggtagta cacgtttctg catgggtgct gcatggagag 540
atacagtgga gggaagacc aacttcaaac agatcctcga atatgtaaaa gaaattcggg 600
gtatgggaat ggaggtatgc tgcactttag gcatgatcga gaagcagcaa gctgtggaac 660
tcaagcagggc tgggctcaca gcttacaatc ataactctga tacttcaaga gattattacc 720
ctaactcatc caccacaaga tcttacgatg agcgtttgga aactcttcag ttctgctggg 780
aagcagggat caatgtctgc tcaggaggaa taatagggtc aggagaagca gaggaggatc 840
gagttggtct tttgcataca ctagcaacgc ttccttcaca tccagaaagt gttcccatca 900
atgcattgct tgcagtcaaa ggcacacctc ttgaagatca gaagccagtt gaaatatggg 960
agatgattcg gatgattgct actgctagaa ttgtaatgcc aaaagcaatg gtcaggctat 1020
cagcaggtcg tgttcgattt tccatgtccg agcaagctct ctgcttcctt gctggcgcca 1080
attccatctt cactgggtgag aaactattga caactcccaa caatgatttt gacgcagatc 1140
aaatgatgtt taagatttta gggctgacac caaaagctcc aaattttgac caaacatcaa 1200
catctttcga agccgagaga tgtgaacaag aagcaactgc gtcatagttc ttgcttcgat 1260
gagattatat atttatccaa atgaagaaat tcccgtccac cgtgtaagct tctttctttt 1320
acatgaagtt tctttgtatg aattatgaaa cctccaaaat aagctatact atttataaca 1380
ggaagttact gctaaatttt caattccatg ggaaatctat tttatgaact caaaaaaaaaa 1440
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 1477

<210> 26
<211> 379

<212> PRT
 <213> Argemone mexicana

<400> 26

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Lys | Val | Gln | Ser | Leu | Arg | Ala | Arg | Leu | Arg | Pro | Leu | Ile | Phe |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ile | Ser | Thr | Phe | Ser | Ser | Leu | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ala | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Val | Gln | Ala | Glu | Arg | Thr | Ile | Lys | Glu | Gly | Pro | Arg | Asn | Asp | Trp |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Ser | Arg | Asp | Glu | Ile | Lys | Ser | Val | Tyr | Asp | Ser | Pro | Val | Leu | Asp | Leu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Phe | His | Ala | Ala | Gln | Val | His | Arg | His | Ala | His | Asn | Phe | Arg | Glu |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Val | Gln | Gln | Cys | Thr | Leu | Leu | Ser | Val | Lys | Thr | Gly | Gly | Cys | Ser | Glu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asp | Cys | Ser | Tyr | Cys | Pro | Gln | Ser | Ser | Arg | Tyr | Asp | Thr | Gly | Val | Lys |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Gln | Lys | Leu | Met | Asn | Lys | Asp | Ala | Val | Leu | Gln | Ala | Ala | Glu | Lys |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Lys | Glu | Ala | Gly | Ser | Thr | Arg | Phe | Cys | Met | Gly | Ala | Ala | Trp | Arg |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | Thr | Val | Gly | Arg | Lys | Thr | Asn | Phe | Lys | Gln | Ile | Leu | Glu | Tyr | Val |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Glu | Ile | Arg | Gly | Met | Gly | Met | Glu | Val | Cys | Cys | Thr | Leu | Gly | Met |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ile | Glu | Lys | Gln | Ala | Val | Glu | Leu | Lys | Gln | Ala | Gly | Leu | Thr | Ala | |
| | | | 180 | | | | 185 | | | | | 190 | | | |
| Tyr | Asn | His | Asn | Leu | Asp | Thr | Ser | Arg | Glu | Tyr | Tyr | Pro | Asn | Ile | Ile |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Thr | Thr | Arg | Ser | Tyr | Asp | Glu | Arg | Leu | Glu | Thr | Leu | Gln | Phe | Val | Arg |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Glu | Ala | Gly | Ile | Asn | Val | Cys | Ser | Gly | Gly | Ile | Ile | Gly | Leu | Gly | Glu |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Glu | Glu | Asp | Arg | Val | Gly | Leu | Leu | His | Thr | Leu | Ala | Thr | Leu | Pro |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Ser | His | Pro | Glu | Ser | Val | Pro | Ile | Asn | Ala | Leu | Leu | Ala | Val | Lys | Gly |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Thr | Pro | Leu | Glu | Asp | Gln | Lys | Pro | Val | Glu | Ile | Trp | Glu | Met | Ile | Arg |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Met | Ile | Ala | Thr | Ala | Arg | Ile | Val | Met | Pro | Lys | Ala | Met | Val | Arg | Leu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ser | Ala | Gly | Arg | Val | Arg | Phe | Ser | Met | Ser | Glu | Gln | Ala | Leu | Cys | Phe |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Leu | Ala | Gly | Ala | Asn | Ser | Ile | Phe | Thr | Gly | Glu | Lys | Leu | Leu | Thr | Thr |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Pro | Asn | Asn | Asp | Phe | Asp | Ala | Asp | Gln | Met | Met | Phe | Lys | Ile | Leu | Gly |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Leu | Thr | Pro | Lys | Ala | Pro | Asn | Phe | Asp | Gln | Thr | Ser | Thr | Ser | Phe | Glu |
| | 355 | | | | | | 360 | | | | | 365 | | | |
| Ala | Glu | Arg | Cys | Glu | Gln | Glu | Ala | Thr | Ala | Ser | | | | | |
| | 370 | | | | | 375 | | | | | | | | | |

<210> 27
 <211> 1526



<212> DNA
<213> Glycine max

<400> 27
gcacgagcta gtactgctcc ctctgcgact tcgttttcgta gagggatttt ggccgcaaaa 60
taaacagtct caccataaac tccaaagtcc caacgctaaa cgaaacccaaa ccccaaacac 120
aaataccggt gttgtctgtt gtctctgtcg tgtctatatt cgcagatctc tcaactcattc 180
tctgttgttt ctctgccccaa ctctgaattc gaaagcaaaa acatgttttt ggcgagacccc 240
atthttccgag caccctccct ttgggcgttg cactcttccct acgcgtattc ctctgcctca 300
gcagctgcaa ttcaagctga gagagccatc aaagaaggac ccagaaaacga ttggagccga 360
gaccaagtca aatccatcta cgactctccc attctcgatc ttctcttcca tggggctcaa 420
gttcacagac atgctcataa cttcagggaa gttcagcagt gtactcttct gtctatcaaa 480
acaggagggt gcagtgaaga ttgttcctat tgtcctcaat cctctaagta tgatacagga 540
gtcaaaggcc aacgccttat gaacaaggaa gctgttctac aggctgcaaa gaaggcaaaa 600
gaggctggga gcaactgctt ttgtatgggt gctgcatgga gggatacact gggaagaaag 660
accaacttca accagatcct tgaatatgtg aaagacataa gggacatggg aatggaggtt 720
tggtgcaccc ttggcatgct ggagaaacag caggctgttg aactcaagaa ggcaggtctc 780
actgcctata atcacaatct tgacacttca agggagtatt atccaaacat catcacaaca 840
aggacttatg atgagcgtct tcaaaccctt gagtttggtc gtgatgcagg gatcaatgtt 900
tgttctggag gaattatagg gcttggagaa gcagaggagg atcgtgtagg ttgtttacat 960
acattgtcaa cacttcccac ccatccagag agtgttctta ttaatgcaat tggtgctgta 1020
aagggaaccc ctcttgagga tcagaagcct gttgaaatat gggagatgat tcgcatgata 1080
gcaactgcac gtatcgtaat gccaaaagca atggtcaggt tatcagctgg cagagttcga 1140
ttctccatgc ctgagcaggc attgtgcttt cttgctgggt caaattctat attcactggt 1200
gaaaagcttc tcaactactcc taacaatgat tttgatgctg atcaactcat gtttaaagtt 1260
cttggacttc tcccaaaaagc tccaagctta catgaagggt aaactagtgt gacagaagat 1320
tataaggaag cagcttcttc tagttgagtt gtcaacggtt tcaaaacaat atctgtgatc 1380
cttcaacttc tctaattgct cattagcatg tactgatgtt aggtttcatt gaatttgtct 1440
aatctcagct ttgaagacac aaactccaac acttaaaaat aaatattgaa attattgatt 1500
tttccctaaa aaaaaaaaaa aaaaaa 1526

<210> 28
<211> 415
<212> PRT
<213> Glycine max

<400> 28
Thr Lys Pro Asn Pro Lys His Lys Tyr Arg Cys Cys Leu Leu Ser Leu
1 5 10 15
Ser Cys Leu Tyr Ser Gln Ile Ser His Ser Phe Ser Val Val Ser Leu
20 25 30
Pro Asn Phe Glu Phe Glu Ser Lys Asn Met Phe Leu Ala Arg Pro Ile
35 40 45
Phe Arg Ala Pro Ser Leu Trp Ala Leu His Ser Ser Tyr Ala Tyr Ser
50 55 60
Ser Ala Ser Ala Ala Ala Ile Gln Ala Glu Arg Ala Ile Lys Glu Gly
65 70 75 80
Pro Arg Asn Asp Trp Ser Arg Asp Gln Val Lys Ser Ile Tyr Asp Ser
85 90 95
Pro Ile Leu Asp Leu Leu Phe His Gly Ala Gln Val His Arg His Ala
100 105 110
His Asn Phe Arg Glu Val Gln Gln Cys Thr Leu Leu Ser Ile Lys Thr
115 120 125
Gly Gly Cys Ser Glu Asp Cys Ser Tyr Cys Pro Gln Ser Ser Lys Tyr
130 135 140

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Thr | Gly | Val | Lys | Gly | Gln | Arg | Leu | Met | Asn | Lys | Glu | Ala | Val | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Gln | Ala | Ala | Lys | Lys | Ala | Lys | Glu | Ala | Gly | Ser | Thr | Arg | Phe | Cys | Met |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Gly | Ala | Ala | Trp | Arg | Asp | Thr | Leu | Gly | Arg | Lys | Thr | Asn | Phe | Asn | Gln |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ile | Leu | Glu | Tyr | Val | Lys | Asp | Ile | Arg | Asp | Met | Gly | Met | Glu | Val | Cys |
| | 195 | | | | | 200 | | | | | 205 | | | | |
| Cys | Thr | Leu | Gly | Met | Leu | Glu | Lys | Gln | Gln | Ala | Val | Glu | Leu | Lys | Lys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Gly | Leu | Thr | Ala | Tyr | Asn | His | Asn | Leu | Asp | Thr | Ser | Arg | Glu | Tyr |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Tyr | Pro | Asn | Ile | Ile | Thr | Thr | Arg | Thr | Tyr | Asp | Glu | Arg | Leu | Gln | Thr |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Leu | Glu | Phe | Val | Arg | Asp | Ala | Gly | Ile | Asn | Val | Cys | Ser | Gly | Gly | Ile |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Ile | Gly | Leu | Gly | Glu | Ala | Glu | Glu | Asp | Arg | Val | Gly | Leu | Leu | His | Thr |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Leu | Ser | Thr | Leu | Pro | Thr | His | Pro | Glu | Ser | Val | Pro | Ile | Asn | Ala | Leu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Val | Ala | Val | Lys | Gly | Thr | Pro | Leu | Glu | Asp | Gln | Lys | Pro | Val | Glu | Ile |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Trp | Glu | Met | Ile | Arg | Met | Ile | Ala | Thr | Ala | Arg | Ile | Val | Met | Pro | Lys |
| | | | 325 | | | | | | 330 | | | | | 335 | |
| Ala | Met | Val | Arg | Leu | Ser | Ala | Gly | Arg | Val | Arg | Phe | Ser | Met | Pro | Glu |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Gln | Ala | Leu | Cys | Phe | Leu | Ala | Gly | Ala | Asn | Ser | Ile | Phe | Thr | Gly | Glu |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Lys | Leu | Leu | Thr | Thr | Pro | Asn | Asn | Asp | Phe | Asp | Ala | Asp | Gln | Leu | Met |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Phe | Lys | Val | Leu | Gly | Leu | Leu | Pro | Lys | Ala | Pro | Ser | Leu | His | Glu | Gly |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Glu | Thr | Ser | Val | Thr | Glu | Asp | Tyr | Lys | Glu | Ala | Ala | Ser | Ser | Ser | |
| | | | 405 | | | | | | 410 | | | | | 415 | |

<210> 29
 <211> 1659
 <212> DNA
 <213> Glycine max

| | |
|--|-----|
| <400> 29 | |
| aaagagtgtatacagatagatttccaaactccactcactcaccactatggcgactctcag | 60 |
| aacttccctatcacgatccc tcatcctccttcgctccaat acccctaatac tgcacacctat | 120 |
| ctcttctctctgttcgtcttc aagttcaaaaa gtcgagaaac tatggtaccg tatcatctgt | 180 |
| tcctcctcaa gctacagaaa catcaagcac atcacctagt aaggatgtct accaagaagc | 240 |
| actcaacgca actgaacccc gcagcaattg gacaagagaa gaaatcaagg cgatctatga | 300 |
| taagccattg atggagttat gttgggggtgc tggtagtttg cacaggaaat tccatatacc | 360 |
| tggggctatt cagatgtgta cattgttgaa catcaagacg ggtggttgct cggaggattg | 420 |
| ttcttactgc gcccaatcat cccgctacca aaccggtctc aaagcctcca aaatggtctc | 480 |
| cgtcgaatct gtccctcgcag ccgcccgcac cgccaaagac aacggtagta cacgtttctg | 540 |
| catgggagcc gcgtggcgcg atatgcgtgg acgaaaaacc aatctcaaaa atgtcaaaac | 600 |
| aatggttagc gagattcgcg gaatgggtat ggaagtatgt gtcacgcttg gtatgattga | 660 |
| tgcagagcaa gctcaggaac tcaaagaagc cgggtctcacg gcttataatc ataatgtgga | 720 |
| tacgtcgagg gatttctatc ccaaggttat cagcaccagg acttatgatg agagattgga | 780 |
| taccattaag aatgtgagag aggccggaat caatgtttgt acgggtggaa tcctcgatt | 840 |

```

aggagaaaaat aagtctgacc atattggact tttggagacg gttgctacgt tgccttcgca 900
tccggaatca tttcctgtga acatgttagt ggctatcaaa ggaacaccac tgggaaggaaa 960
caagaagggtg gaatttgaga atatgttgag aatgggtgcg acggctagaa tcgtcatgcc 1020
taaaaccatc gtgcgttttg cagctggaag aggagaattg agcgaggaac aacaggtcctt 1080
atgtttcatg gccggagcca atgccgtttt cacaggagaa acaatgttaa ccacaccagc 1140
cgttggatgg ggtgtcgatt ccgtcgtttt caacagatgg ggattaagac ccatggaaaag 1200
tttcgaggtt gaagccttga agaacgataa acctgccact actaatacgg aaataccggt 1260
agaggcaagt aaggcagaga tgccagggtac agttgcttga ttgattgttt gatttggata 1320
cccagggcgt ttggtgcgct catcatctcg agtttttgca aggagattcg aacagtggaa 1380
gtgccgttgc gccaccattg ggattggcgt atcggactga gattgactgt gccacgaaaa 1440
tgttttgcgc tatcgtgtgt tgcatctctg tgggaattta gcgttggttg ttttggtttt 1500
ggttttggtt gatgtgagag aatgattgtt tagaagggga gaatgtatat acggaacagt 1560
agaatatatt cttgtctata agattatata ggataaatat atataagctt atcctcaaaa 1620
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1659

```

```

<210> 30
<211> 417
<212> PRT
<213> Glycine max

```

```

<400> 30
Met Ala Thr Leu Arg Thr Ser Leu Ser Arg Ser Leu Ile Leu Leu Arg
1 5 10 15
Ser Asn Thr Pro Lys Leu Ala Pro Ile Ser Ser Ser Val Arg Leu Gln
20 25 30
Val Gln Lys Ser Arg Asn Tyr Gly Thr Val Ser Ser Val Pro Pro Gln
35 40 45
Ala Thr Glu Thr Ser Ser Thr Ser Pro Ser Lys Asp Val Tyr Gln Glu
50 55 60
Ala Leu Asn Ala Thr Glu Pro Arg Ser Asn Trp Thr Arg Glu Glu Ile
65 70 75 80
Lys Ala Ile Tyr Asp Lys Pro Leu Met Glu Leu Cys Trp Gly Ala Gly
85 90 95
Ser Leu His Arg Lys Phe His Ile Pro Gly Ala Ile Gln Met Cys Thr
100 105 110
Leu Leu Asn Ile Lys Thr Gly Gly Cys Ser Glu Asp Cys Ser Tyr Cys
115 120 125
Ala Gln Ser Ser Arg Tyr Gln Thr Gly Leu Lys Ala Ser Lys Met Val
130 135 140
Ser Val Glu Ser Val Leu Ala Ala Ala Arg Ile Ala Lys Asp Asn Gly
145 150 155 160
Ser Thr Arg Phe Cys Met Gly Ala Ala Trp Arg Asp Met Arg Gly Arg
165 170 175
Lys Thr Asn Leu Lys Asn Val Lys Thr Met Val Ser Glu Ile Arg Gly
180 185 190
Met Gly Met Glu Val Cys Val Thr Leu Gly Met Ile Asp Ala Glu Gln
195 200 205
Ala Gln Glu Leu Lys Glu Ala Gly Leu Thr Ala Tyr Asn His Asn Val
210 215 220
Asp Thr Ser Arg Asp Phe Tyr Pro Lys Val Ile Thr Thr Arg Thr Tyr
225 230 235 240
Asp Glu Arg Leu Asp Thr Ile Lys Asn Val Arg Glu Ala Gly Ile Asn
245 250 255
Val Cys Thr Gly Gly Ile Leu Gly Leu Gly Glu Asn Lys Ser Asp His
260 265 270

```

Ile Gly Leu Leu Glu Thr Val Ala Thr Leu Pro Ser His Pro Glu Ser
 275 280 285
 Phe Pro Val Asn Met Leu Val Ala Ile Lys Gly Thr Pro Leu Glu Gly
 290 295 300
 Asn Lys Lys Val Glu Phe Glu Asn Met Leu Arg Met Val Ala Thr Ala
 305 310 315 320
 Arg Ile Val Met Pro Lys Thr Ile Val Arg Leu Ala Ala Gly Arg Gly
 325 330 335
 Glu Leu Ser Glu Glu Gln Gln Val Leu Cys Phe Met Ala Gly Ala Asn
 340 345 350
 Ala Val Phe Thr Gly Glu Thr Met Leu Thr Thr Pro Ala Val Gly Trp
 355 360 365
 Gly Val Asp Ser Val Val Phe Asn Arg Trp Gly Leu Arg Pro Met Glu
 370 375 380
 Ser Phe Glu Val Glu Ala Leu Lys Asn Asp Lys Pro Ala Thr Thr Asn
 385 390 395 400
 Thr Glu Ile Pro Val Glu Ala Ser Lys Ala Glu Met Pro Gly Thr Val
 405 410 415
 Ala

<210> 31
 <211> 1032
 <212> DNA
 <213> Triticum aestivum

<400> 31
 gcacgagaga tgccgtccta gaagcagcaa aaaaggcaaa ggaggctggg agcaccgat 60
 tttgcatggg agccgcatgg agagagacaa ttggcaggaa aacaaatttc aaccagattc 120
 ttgaatatgt caaggacata agaggtatgg gcatggaggt ctgttgacc ctgggcatgc 180
 tagagaaaca acaagctgaa gaactcaaga aggctggact tacagcttat aatcataacc 240
 tagatacatc aagagaatat taccccaaca ttatttctac aagatcgtag gatgatagat 300
 tacagactct tcagcatgtc cgtgaagctg gaataagcgt ctgctcaggt ggaattattg 360
 gtcttggaga ggcggaggaa gaccgtgtag ggctgttgca tacactggcc actttgcca 420
 cacaccaga gagcgttcct atcaatgcat tgattgctgt caaaggcacg cctcttcagg 480
 atcagaagcc tgtagagata tgggaaatga tccgcatgat tgccagcgca cggattgtga 540
 tgccaaaggc aatggtgaga ctttcggcag ggagagtacg gttttccatg ccagaacaag 600
 ctctctgctt tctcgttggg gccaaactcga tcttcgccgg tgaaaagctc ctgacaactg 660
 cgaacaatga cttttagatgc gaccaggcaa tgttcaagat ccttggcctg attcccaagg 720
 ctccaaactt tggcgatgaa gaggtcatgg tagcagcacc cacggagaga tgtgagcaag 780
 ccgctttgat gtaaaatgtc ggtatagatt ctcgagacca catccggtgc aaaactggca 840
 ccattatctc cacctagagt tttgtactgt agagatcatg acattttata gtaacttcag 900
 attcatcgaa ataaaaatag gggttctctg caaaaaaaaa aaaaaaaaaa aaaaaaaaaa 960
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1020
 aaaaaaaaaa aa 1032

<210> 32
 <211> 263
 <212> PRT
 <213> Triticum aestivum

<400> 32
 Thr Arg Asp Ala Val Leu Glu Ala Ala Lys Lys Ala Lys Glu Ala Gly
 1 5 10 15

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Lys | Glu | Ala | Gly | Ser | Thr | Arg | Phe | Cys | Met | Gly | Ala | Ala | Trp | Arg |
| 130 | | | | | | 135 | | | | | 140 | | | | |
| Asp | Thr | Ile | Gly | Arg | Lys | Thr | Asn | Phe | Ser | Gln | Ile | Leu | Glu | Tyr | Ile |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Glu | Ile | Arg | Gly | Met | Gly | Met | Glu | Val | Cys | Cys | Thr | Leu | Gly | Met |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ile | Glu | Lys | Gln | Gln | Ala | Leu | Glu | Leu | Lys | Lys | Ala | Gly | Leu | Thr | Ala |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Tyr | Asn | His | Asn | Leu | Asp | Thr | Ser | Arg | Glu | Tyr | Tyr | Pro | Asn | Val | Ile |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Thr | Thr | Arg | Ser | Tyr | Asp | Asp | Arg | Leu | Glu | Thr | Leu | Ser | His | Val | Arg |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Asp | Ala | Gly | Ile | Asn | Val | Cys | Ser | Gly | Gly | Ile | Ile | Gly | Leu | Gly | Glu |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Glu | Glu | Asp | Arg | Ile | Gly | Leu | Leu | His | Thr | Leu | Ala | Thr | Leu | Pro |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Ser | His | Pro | Glu | Ser | Val | Pro | Ile | Asn | Ala | Leu | Leu | Ala | Val | Lys | Gly |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Thr | Pro | Leu | Glu | Asp | Gln | Lys | Pro | Val | Glu | Ile | Trp | Glu | Met | Ile | Arg |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Met | Ile | Gly | Thr | Ala | Arg | Ile | Val | Met | Pro | Lys | Ala | Met | Val | Arg | Leu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ser | Ala | Gly | Arg | Val | Arg | Phe | Ser | Met | Ser | Glu | Gln | Ala | Leu | Cys | Phe |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Leu | Ala | Gly | Ala | Asn | Ser | Ile | Phe | Thr | Gly | Glu | Lys | Leu | Leu | Thr | Thr |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Pro | Asn | Asn | Asp | Phe | Asp | Ala | Asp | Gln | Leu | Met | Phe | Lys | Thr | Leu | Gly |
| | | 340 | | | | | | 345 | | | | | 350 | | |
| Leu | Ile | Pro | Lys | Pro | Pro | Ser | Phe | Ser | Glu | Asp | Asp | Ser | Glu | Ser | Glu |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Asn | Cys | Glu | Lys | Val | Ala | Ser | Ala | Ser | His | | | | | | |
| | 370 | | | | | 375 | | | | | | | | | |

<210> 34
 <211> 362
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 34

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Thr | Arg | Thr | Ile | Arg | Gln | Gln | Ile | Arg | Arg | Phe | Phe | Ala | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Phe | Leu | Val | Arg | Asn | Asn | Trp | Thr | Arg | Glu | Glu | Ile | Gln | Lys | Ile | Tyr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Thr | Pro | Leu | Ile | Asp | Leu | Ile | Phe | Arg | Ala | Ala | Ser | Ile | His | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Lys | Phe | His | Asp | Pro | Lys | Lys | Val | Gln | Gln | Cys | Thr | Leu | Leu | Ser | Ile |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Lys | Thr | Gly | Gly | Cys | Thr | Glu | Asp | Cys | Lys | Tyr | Cys | Ala | Gln | Ser | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Arg | Tyr | Asn | Thr | Gly | Val | Lys | Ala | Thr | Lys | Leu | Met | Lys | Ile | Asp | Glu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Val | Leu | Glu | Lys | Ala | Lys | Ile | Ala | Lys | Ala | Lys | Gly | Ser | Thr | Arg | Phe |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Cys | Met | Gly | Ser | Ala | Trp | Arg | Asp | Leu | Asn | Gly | Arg | Asn | Arg | Thr | Phe |
| | | 115 | | | | | 120 | | | | | 125 | | | |

Lys Asn Ile Leu Glu Ile Ile Lys Glu Val Arg Ser Met Asp Met Glu
 130 135 140
 Val Cys Val Thr Leu Gly Met Leu Asn Glu Gln Gln Ala Lys Glu Leu
 145 150 155 160
 Lys Asp Ala Gly Leu Thr Ala Tyr Asn His Asn Leu Asp Thr Ser Arg
 165 170 175
 Glu Tyr Tyr Ser Lys Ile Ile Ser Thr Arg Thr Tyr Asp Glu Arg Leu
 180 185 190
 Asn Thr Ile Asp Asn Leu Arg Lys Ala Gly Leu Lys Val Cys Ser Gly
 195 200 205
 Gly Ile Leu Gly Leu Gly Glu Lys Lys His Asp Arg Val Gly Leu Ile
 210 215 220
 His Ser Leu Ala Thr Met Pro Thr His Pro Glu Ser Val Pro Phe Asn
 225 230 235 240
 Leu Leu Val Pro Ile Pro Gly Thr Pro Val Gly Asp Ala Val Lys Glu
 245 250 255
 Arg Leu Pro Ile His Pro Phe Leu Arg Ser Ile Ala Thr Ala Arg Ile
 260 265 270
 Cys Met Pro Lys Thr Ile Ile Arg Phe Ala Ala Gly Arg Asn Thr Cys
 275 280 285
 Ser Glu Ser Glu Gln Ala Leu Ala Phe Met Ala Gly Ala Asn Ala Val
 290 295 300
 Phe Thr Gly Glu Lys Met Leu Leu Leu Leu Phe Leu Asp Ser Asp
 305 310 315 320
 Ser Gln Leu Phe Tyr Asn Trp Gly Leu Glu Gly Met Gln Ser Phe Glu
 325 330 335
 Tyr Gly Thr Ser Thr Glu Gly Glu Asp Gly Thr Phe Thr Leu Pro Pro
 340 345 350
 Lys Glu Arg Leu Ala Pro Ser Pro Ser Leu
 355 360

<210> 35
 <211> 363
 <212> PRT
 <213> Schizosaccharomyces pombe

<400> 35
 Met Phe Thr Arg Thr Ile Arg Gln Gln Ile Arg Arg Ser Ser Ala Leu
 1 5 10 15
 Ser Leu Val Arg Asn Asn Trp Thr Arg Glu Glu Ile Gln Lys Ile Tyr
 20 25 30
 Asp Thr Pro Leu Ile Asp Leu Ile Phe Arg Ala Ala Ser Ile His Arg
 35 40 45
 Lys Phe His Asp Pro Lys Lys Val Gln Gln Cys Thr Leu Leu Ser Ile
 50 55 60
 Lys Thr Gly Gly Cys Thr Glu Asp Cys Lys Tyr Cys Ala Gln Ser Ser
 65 70 75 80
 Arg Tyr Asn Thr Gly Val Lys Ala Thr Lys Leu Met Lys Ile Asp Glu
 85 90 95
 Val Leu Glu Lys Ala Lys Ile Ala Lys Ala Lys Gly Ser Thr Arg Phe
 100 105 110
 Cys Met Gly Ser Ala Trp Arg Asp Leu Asn Gly Arg Asn Arg Thr Phe
 115 120 125
 Lys Asn Ile Leu Glu Ile Ile Lys Glu Val Arg Ser Met Asp Met Glu
 130 135 140

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Cys | Val | Thr | Leu | Gly | Met | Leu | Asn | Glu | Gln | Gln | Ala | Lys | Glu | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Asp | Ala | Gly | Leu | Thr | Ala | Tyr | Asn | His | Asn | Leu | Asp | Thr | Ser | Arg |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Tyr | Tyr | Ser | Lys | Ile | Ile | Ser | Thr | Arg | Thr | Tyr | Asp | Glu | Arg | Leu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Asn | Thr | Ile | Asp | Asn | Leu | Arg | Lys | Ala | Gly | Leu | Lys | Val | Cys | Ser | Gly |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Gly | Ile | Leu | Gly | Leu | Gly | Glu | Lys | Lys | His | Asp | Arg | Val | Gly | Leu | Ile |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| His | Ser | Leu | Ala | Thr | Met | Pro | Thr | His | Pro | Glu | Ser | Val | Pro | Phe | Asn |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Leu | Leu | Val | Pro | Ile | Pro | Gly | Thr | Pro | Val | Gly | Asp | Ala | Val | Lys | Glu |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Arg | Leu | Pro | Ile | His | Pro | Phe | Leu | Arg | Ser | Ile | Ala | Thr | Ala | Arg | Ile |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Cys | Met | Pro | Lys | Thr | Ile | Ile | Arg | Phe | Ala | Ala | Gly | Arg | Asn | Thr | Cys |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Ser | Glu | Ser | Glu | Gln | Ala | Leu | Ala | Phe | Met | Ala | Gly | Ala | Asn | Ala | Val |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Phe | Thr | Gly | Glu | Lys | Met | Leu | Thr | Thr | Pro | Ala | Val | Ser | Trp | Asp | Ser |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Asp | Ser | Gln | Leu | Phe | Tyr | Asn | Trp | Gly | Leu | Glu | Gly | Met | Gln | Ser | Phe |
| | | | 325 | | | | | 330 | | | | | | 335 | |
| Glu | Tyr | Gly | Thr | Ser | Thr | Glu | Gly | Glu | Asp | Gly | Thr | Phe | Thr | Leu | Pro |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Pro | Lys | Glu | Arg | Leu | Ala | Pro | Ser | Pro | Ser | Leu | | | | | |
| | | 355 | | | | | 360 | | | | | | | | |

<210> 36
 <211> 12
 <212> PRT
 <213> biotin synthase conserved sequence element

<220>
 <221> UNSURE
 <222> (2)..(2)
 <223> Xaa represents any amino acid

<220>
 <221> UNSURE
 <222> (4)..(4)
 <223> Xaa represents any amino acid

<220>
 <221> UNSURE
 <222> (8)..(8)
 <223> Xaa represents any amino acid

<220>
 <221> UNSURE
 <222> (11)..(11)



223> Xaa represents any amino acid

<400> 36

Gly Xaa Cys Xaa Glu Asp Cys Xaa Tyr Cys Xaa Gln
1 5 10

0910220-00000000